Turning Customer Insight into Action
It’s not just the data, but how you use it that matters

The way businesses collect, analyse and use data is changing—from simply looking for and visualising historical trends, to using advanced mathematical models to examine data in real-time and predict what might happen next. Beyond that, the more switched-on companies are also starting to use technology to influence those outcomes, by combining data analytics with business process automation to create what analyst firm Forrester has identified as the Enterprise Insight Platform, technology designed to enable companies to transform into truly data-driven businesses able to listen and react to what their customers tell them through day to day interactions.

Understandably, much of this development has been aimed at and led by data scientists, business analysts, and other specialists typically tasked with building data dashboards and applications for end users. However, with more data problems than specialists to solve them, vendors such as TIBCO now provide self-service data analytics and automation toolkits that anyone can use to bridge the gap. These easy to use tools have been widely welcomed, however they are no substitute for specialist knowledge, and the issue remains of where, when, and how best to deploy them to create real business value.

Making the tools more accessible is only the first step, and the aim of this whitepaper is to examine how an enterprise insight platform can be put into practice. More specifically, it explores how data analytics and business process automation can be used to turn customer insight into action, using two common applications to illustrate the concepts and processes involved.

1 The Forrester Wave™: Enterprise Insight Platform Suites, Q4 2016
EXAMPLE 1 - RIGHT OFFER, RIGHT TIME

Love them or loathe them, email and social media promotions have rapidly become a fact of modern life. Despite their ubiquity, however, they remain largely untargeted and poorly timed, often irritating rather than delighting customers and, in the process, jeopardising future relationships. Make a new purchase online, for example, and you will set in motion an often very rigid and non-specific set of processes, starting with a rash of offers at best related to the product you’ve bought and at worse related only to the fact that you’ve made a purchase at all. Unless you opt out, you may also be added to a general mailing list and regularly advised of products, services, and offers that may or may not be relevant until you unsubscribe and, possibly, switch to a less persistent seller.

Data analytics can vastly improve this situation and make such marketing activity a great deal more relevant by considering not just what customers purchase, but their previous transaction history (where available) and what other customers have gone on to buy having made similar purchases.

Online retailers are well placed to do this, but it’s worth stressing that the processes are the same regardless of industry sector and whether the transactions happen online, over the phone, or in person.

It all starts with collecting as much data at the point of sale or customer interaction as possible. That information can then be matched with data from other sources in a process referred to as data wrangling, something that can be carried out using data analytics programs such as TIBCO Spotfire®, which make it easy to link to multiple data sources whether held locally on-premises, in a remote data centre, or in the cloud.

Tools such as Spotfire enable you to analyse and visualise this combined dataset to make sense of the events being captured. In other words, to gain insight into customer behaviour that can be used to make decisions on what to do next to influence the outcome of future interactions. We’ll take an online sports retailer as a practical example of this, and look at how insight platform technologies can help deliver value when a customer goes online to purchase ski equipment.

The first thing to note is that, taken in isolation, the transaction itself says little more about that customer other than that they’re interested in winter sports. Cross reference that against the customer’s purchase history, however, and you may find they are interested in other sports as well. Relate that to other customer histories and you could refine this even further and work out what products they are likely to buy. Moreover, based on the brands purchased, when they were bought, and other related data, it’s possible to not only predict what they might be interested in buying next, but when and how much they are likely to spend.
Armed with this insight, it becomes possible to tailor promotions to individual interests rather than take the rather blunt approach of expecting customers to always buy more of the same. Similarly, promotions can be timed more precisely to, for example, send offers to buyers of sports equipment when they’re booking their holidays, not while they’re enjoying them.

The next step is to automate the processes involved and, while analytics tools make it easy to capture data and build analytic models, more specialised technology is needed to take that insight and turn it into action. Capabilities provided by TIBCO StreamBase® and TIBCO BusinessEvents® enable our theoretical sports retailer to deliver targeted promotions using the analytics developed above. These streaming analytics and event processing technologies build and manage automated real-time business workflows across a wide range of applications and channels, including email and social networking platforms, enabling you to send the right message to the right person at the right time.

Add in the capture of real-time data, plus continuous monitoring of outcomes (machine learning), and the analytic models employed can be further adapted and refined over time to both grow customer insight and deliver increasing business value, effectively creating a self-learning, data-driven, closed-loop workflow.
EXAMPLE 2 - UNDERSTANDING CUSTOMER CHURN

Our second example looks at understanding and reducing customer “churn,” by which we mean customers switching to another retailer or service company. Understanding why this happens can be difficult and is often based on guesswork or gut instinct which, on closer examination of the data, will often be found incorrect, negating any steps taken to remediate the situation. Data analytics can be of great help here and, whilst in this case we’re looking at why customers choose to switch mobile phone providers, the principles are much the same across other sectors too.

On the face of it, there could be lots of reasons why mobile subscribers decide to switch providers, some of which can be addressed quite simply. The cost of calls, texts, or data downloads, for example, can lead to the common scenario of customers being offered better rates when they threaten to switch networks. In a lot of cases this incentive will stop them from switching, but it’s based on the assumption that cost is the main factor at work, which may not be the case. The practice also costs money and might be missing an opportunity to address the issue for less, long before the customer takes steps to move away.

To get a better understanding of what might be influencing churn, we would start by looking at the historical data held by our mobile network operator. Visual analytics tools applying statistical and machine learning models can relate churn levels to a range of variables found in the data, such as contract length, total number of calls or texts, type of numbers called, call costs, and so on.

The results of such an analysis are shown in Figure 1 revealing that, although a major factor, cost is not the best predictor of churn. Instead, in this example word of mouth is the best predictor – such as when customers receive calls from others who have already left. Such insight can now be used to target action, quite possibly before the customers (and subsequently their friends) even think about leaving as an option.

As with our first example, taking action could again involve building workflows in tools such as TIBCO StreamBase, if real-time action were a goal. In this case, streaming analytics would also be used to spot those joint conditions that sway a loyal customer into thinking of leaving. Actions such as offering to increase text and/or data allowances or, for higher value customers, an attractive phone upgrade in return for signing up for a longer contract.
Offered before the customer makes the decision to go, this kind of targeted promotion stands a greater chance of being successful compared to simple knee jerk cost-cutting after the event. In addition, by continuously monitoring for indicators of churn and the effectiveness of measures taken to curb churn, then feeding that information back into the insight/action loop, ever more sophisticated measures can be devised and implemented to keep customers loyal and happy.

BECOMING DATA-DRIVEN

As can be seen from these two examples, modern insight platforms can help companies move far beyond simple discovery and visualisation of data to putting data at the heart of business decision-making and automating the processes involved. Recognised by Forrester as a strong performer among enterprise insight platform suites, TIBCO not only offers market leading products but a complete TIBCO Community offering advice, real-life examples and support, plus free templates that can be used with Spotfire and StreamBase to help turn customer insight into action for your business.

2 The Forrester Wave™: Enterprise Insight Platform Suites, Q4 2016